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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DUSTIN KIRKLAND

Appeal 2008-005098
Application 10/607,515
Technology Center 2400

Decided: February 22, 2010

Before JOHN A. JEFFERY, THU A. DANG, and STEPHEN C. SIU,
Administrative Patent Judges.

JEFFERY, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-9, 12-16, and 18-20. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellant invented a data processing system that communicates with a network medium (e.g., a wired Ethernet LAN) via a wireless transmission link. To this end, a mated pair of wireless bridge devices are used which share a unique encryption/decryption key. The wireless bridge devices therefore communicate exclusively with each other. *See generally* Spec. 1-2, 6-7; Fig. 2. Claim 1 is illustrative with the key disputed limitation emphasized:

1. A data processing configuration, comprising:
 - a data processing system;
 - a network communication device of the data processing system for enabling the data processing system to communicate with a wired network, the network communication device including a wired port for receiving a cable connector;
 - a first wireless bridge device having a cable connector for insertion in the wired port of the network communication device, wherein the first wireless bridge device further includes an encryption unit for encrypting information received from the data processing system according to a predetermined encryption algorithm and a transmitter for transmitting the encrypted information wirelessly; and
 - a second wireless bridge device having a cable connector for insertion into a port of the wired network, wherein the second wireless bridge device includes a receiver for receiving encrypted information transmitted wirelessly from the first wireless bridge device, and a decryption unit for decrypting the received encrypted information according to a decryption algorithm that is matched to the encryption algorithm of the first wireless bridge device, wherein *the first and second wireless bridge devices communicate exclusively with each other in a wireless manner.*

The Examiner relies on the following as evidence of unpatentability:

Inoue	US 6,167,513	Dec. 26, 2000
Vij	US 6,452,910 B1	Sept. 17, 2002

THE REJECTION

The Examiner rejected claims 1-9, 12-16, and 18-20 under 35 U.S.C. § 103(a) as unpatentable over Inoue and Vij. Ans. 3-6.¹

CLAIM GROUPING

Appellant argues claims 1, 2, 4-9, 12-16, and 18-20 together as a group, and also separately argues claim 3. *See* Br. 10-16. Accordingly, we group claims 1, 2, 4-9, 12-16, and 18-20 together, and select claim 1 as representative. We also treat claim 3 separately. *See* 37 C.F.R. § 41.37(c)(1)(vii).

CONTENTIONS

Regarding representative claim 1, the Examiner finds that Inoue discloses a data processing configuration including two “bridge devices” which the Examiner equates to various gateways that encrypt and decrypt information when communicating. Ans. 3-4. According to the Examiner, this encrypted communication between gateways is exclusive since it effectively excludes other gateways in participating in a particular communication session. Ans. 7-8. Although the Examiner acknowledges

¹ Throughout this opinion, we refer to the Appeal Brief filed December 26, 2007 and the Examiner’s Answer mailed April 10, 2008.

that these “bridges” do not communicate wirelessly, the Examiner cites Vij as teaching this feature in concluding that the claim would have been obvious. Ans. 3-4.

Appellant argues that the cited prior art does not teach or suggest that the wireless bridge devices communicate *exclusively* with each other wirelessly as claimed. Br. 12; emphasis added. According to Appellant, since Inoue’s master key can be communicated between multiple computers in multiple networks, any “bridges” in Inoue do not communicate with each other *exclusively* as claimed. *Id.*

To do so, Appellant contends, would actually defeat the purpose of Inoue’s system which processes encrypted packets when a mobile computer moves outside its home network. Br. 13-14. Vij is likewise said to teach away from exclusive communication between wireless ports since Vij facilitates communication between multiple, incompatible technologies via a single wireless bridge. Br. 15-16.

Regarding claim 3, Appellant argues that the cited prior art does not teach or suggest that each wireless bridge device includes an internal power supply as claimed.

The issues before us, then, are as follows:

ISSUES

1. Under § 103, has Appellant shown that the Examiner erred by finding that Inoue and Vij collectively teach or suggest:
 - (a) the wireless bridge devices communicate exclusively with each other wirelessly as recited in claim 1?

(b) each wireless bridge device includes an internal power supply as recited in claim 3?

2. Is the Examiner's reason to combine the teachings of these references supported by articulated reasoning with some rational underpinning to justify the Examiner's obviousness conclusion?

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence:

Inoue

1. Inoue discloses a mobile computing scheme using encryption and authentication processing based on the location of a mobile computer, particularly its location with respect to its home network. Inoue, Abstract.

2. Packet communications between computers in Inoue include communications between (1) stationary computers; (2) a stationary computer and a mobile computer; and (3) mobile computers. Inoue, col. 10, ll. 40-62; Fig. 3.

3. Inoue's Figure 3 shows three interconnected networks: (1) home network 1a of mobile computer (MN) 2; (2) a "first other section network" 1b; and (3) a "second other section network" 1c. Each network has an associated packet processing device (i.e., packet encryption gateway) 4a, 4b, and 4c that have packet and authentication processing functions. Inoue, col. 11, ll. 10-25, 43-49; Fig. 3.

4. Figure 4C shows an encryption/end-to-end authentication format for facilitating packet encryption and authentication between (1) end gateways, or (2) an end gateway and the mobile computer. The key

information header contains information for obtaining a key used in (1) authentication processing, and (2) decryption processing by the receiving side. Inoue, col. 12, ll. 20-40; Fig. 4C.

5. The master key shared between (1) two packet encryption gateways, or (2) a packet encryption gateway and the mobile computer can be generated by exchanging a secret key or derivation using a public key and a secret key. Inoue, col. 13, ll. 27-32.

6. Figure 6 shows a case where mobile computer 2 moves to the “first other section network” 1b. In this case, encrypted communication occurs via gateways 4a and 4b. *See generally* Inoue, col. 17, l. 15 – col. 20, l. 4; Figs. 6-11.

7. Figure 13 shows a case of packet transfer from a first stationary node to second stationary node via gateways GWa and GWb. In this case, gateway GWa transfers the packet by converting it into the encryption/end-to-end authentication format. Gateway GWb then transfers the packet by converting it into an IP format. End-to-end authentication is facilitated between these gateways. Inoue, col. 20, ll. 35-44; Fig. 13.

Vij

8. *Vij* discloses a wireless bridge that interconnects two previously incompatible technologies (e.g., a personal area network using Bluetooth technology and a wireless local area network using an IEEE 802.11 specification). *Vij*, Abstract; col. 1, ll. 7-12; col. 6, ll. 39-60; Fig. 6.

9. Figure 5 shows *Vij*’s roaming feature which uses multiple wireless bridges to increase the range of communications of a particular Bluetooth device. This system ensures that communications continues when a

Bluetooth device leaves the coverage area of a particular wireless bridge.

Vij, col. 5, ll. 33-63; Fig. 5.

10. Vij's Figure 1 shows a bridge apparatus including a power supply. Vij, col. 4, ll. 9-15; Fig. 1.

Appellant's Disclosure

11. Appellant's Specification notes that encryption/decryption keys of each pair of bridge devices is unique to that bridge pair. Therefore, the wireless bridge devices in a pair are designed to communicate with each other exclusively. Spec. 6:24-27.

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). If the Examiner's burden is met, the burden then shifts to the Appellant to overcome the *prima facie* case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

“‘Comprising’ is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.” *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997) (citation omitted).

To be patentable under § 103, an improvement must be more than the predictable use of prior art elements according to their established functions. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

ANALYSIS

Claims 1, 2, 4-9, 12-16, and 18-20

Based on the record before us, we find no error in the Examiner's obviousness rejection of representative claim 1 which calls for, in pertinent part, exclusive wireless communication between wireless bridge devices. First, it is undisputed that Inoue's packet encryption gateways are "bridge devices"—albeit not necessarily wireless bridges. Indeed, the Examiner's finding in this regard is amply supported by Inoue in that these gateways not only provide an interface through which communications between various networks occur, but they also provide encryption and authentication functions. FF 3-4. As such, Inoue's gateways reasonably constitute bridge devices.

And these bridge devices communicate exclusively with each other via encryption—at least on a session-by-session basis. The Examiner's point in this regard (Ans. 7) is well taken, for sharing an encryption key between two packet encryption gateways would, by the very nature of encrypted communications, exclude other gateways from participating *in that secure communication session*. Nothing in claim 1 precludes this exclusion. *See* FF 5-7; *see also* FF 11 (noting that the encryption/decryption keys of each pair of bridge devices in the present invention enable exclusive communications between these devices).

We reach this conclusion despite Inoue’s capability of facilitating communication between multiple networks based on the location of a mobile computer. *See* FF 1-6. Notably, the preamble of claim 1 recites the open-ended term “comprising” which does not preclude additional communications between bridge devices and other devices, so long as there is some exclusive communication between the bridge devices. *See Genentech*, 112 F.3d at 501. In short, the scope of open-ended claim 1 is fully met by the exclusive encrypted communications between two gateways (bridge devices) in Inoue *in a particular session* notwithstanding the fact that they may communicate with other devices in other sessions.

We also find no error in the Examiner’s combining Vij with Inoue to arrive at the claimed invention. We find unavailing Appellant’s argument regarding Vij allegedly teaching away from its combination with Inoue in view of its non-exclusive communication between the server and other wireless bridges (Br. 15-16). Although Vij does include a roaming feature that utilizes multiple wireless bridges (FF 9), Appellant’s argument is simply not germane to the reason why the Examiner cited Vij. The Examiner cited Vij merely to show that wireless communication between bridge devices would have been obvious (Ans. 4)—a conclusion amply supported by Vij’s use of wireless communication links between devices. *See* FF 8. In light of this teaching, we see no reason why using wireless communications between Inoue’s gateways would not have been a predictable use of prior art elements according to their established functions—an obvious improvement. *See KSR*, 550 U.S. at 417. We therefore find the Examiner’s reason to

combine the teachings of Inoue and Vij supported by articulated reasoning with some rational underpinning to justify the Examiner’s obviousness conclusion.

We are therefore not persuaded that the Examiner erred in rejecting representative claim 1, and claims 2, 4-9, 12-16, and 18-20 which fall with claim 1.

Claim 3

We will also sustain the Examiner’s rejection of claim 3 which recites that each wireless bridge device includes an internal power supply. The Examiner’s reliance on the bridge device’s power supply in Vij’s Figure 1 (Ans. 9; FF 10) amply supports the Examiner’s official notice (Ans. 5) regarding internal power supplies in bridge devices. Apart from merely alleging that the Examiner made “an unsupported assumption” (Br. 16), Appellant does not explain why the Examiner’s findings regarding claim 3 are erroneous—findings which we find reasonable in any event.

We are therefore not persuaded that the Examiner erred in rejecting claim 3.

CONCLUSION

Appellant has not shown that the Examiner erred in rejecting claims 1-9, 12-16, and 18-20 under § 103.

ORDER

The Examiner’s decision rejecting claims 1-9, 12-16, and 18-20 is affirmed.

Appeal 2008-005098
Application 10/607,515

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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